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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,827	04/22/2005	Marc-Andre Theoleyre	7372	5800

1218 7590 12/29/2009

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EXAMINER	
DEES, NIKKI H	
ART UNIT	PAPER NUMBER
1794	
MAIL DATE	DELIVERY MODE
12/29/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,827	THEOLEYRE, MARC-ANDRE	
	Examiner	Art Unit	
	Nikki H. Dees	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed on July 28, 2009, has been entered. Claims 1 and 3-14 are currently pending in the Application. The previous rejection of claims 1 and 3-14 over Jönsson in view of Saska et al. has been withdrawn in view of Applicant's amendment to claim 1.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 3-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel (6,383,540) in view of Saska et al. (5,443,650).

4. Noel teaches a method for the demineralization of whey. The method comprises exchanging divalent cations for protons and divalent anions for chloride ions (Claim 1). A strong anionic resin is employed to exchange the anions able to form complexes with the monovalent anions (claim 3), and a strong cationic resin is used to exchange cations (claim 4).

5. Noel discloses regeneration of the mixed (cationic and anionic) bed resin, followed by the regeneration of the cationic bed resin using the effluent from the mixed bed (col. 5 lines 16-21).

6. Noel et al. are silent as to the use of an aqueous NaCl solution for the regeneration of the ion exchange resins.

7. Selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results (see *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have altered the order of the ion exchange resins in order that the solution contact the anion exchange resin prior to contacting the cation exchange resin.

8. Saska et al. teach a method for removing Ca^{2+} and Mg^{2+} from an aqueous sugar solution on a cation exchange resin where the divalent cations are replaced by the monovalent cations Na^{+} and K^{+}. The cation exchange resin is periodically regenerated using an aqueous NaCl solution (col. 1 lines 33-37).

9. As to the regeneration of the ion-exchange resins, as with the order of performing the ion exchange steps, selection of any order of regeneration would be *prima facie* obvious over the method taught by Noel. Selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results (see *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have altered the

order of the ion exchange resins in order that the solution contact the anion exchange resin prior to contacting the cation exchange resin.

10. Regeneration of ion exchange columns using NaCl is known in the art, as taught by Saska. Therefore, it would have been obvious to one skilled in the art to carry out a well known step in a known process for its intended purpose to provide the predictable result of a regenerated column.

11. Both the method taught by Noel and the method taught by Saska are for use with aqueous solutions of food products. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have exchanged cations as taught by Saska et al. in the method taught by Noel in order demineralize the aqueous solution without excessively increasing the acidity of the solution.

12. There are a multitude of commercially available anionic and cationic exchange resins. It would have been well within the ability of one of ordinary skill in the art at the time the invention was made to have selected the appropriate cationic and anionic exchange resins in order to be able to both effectively remove the desired ions from the solution and regenerate the resins with an aqueous sodium chloride solution.

Response to Amendment

13. The declaration under 37 CFR 1.132 filed July 28, 2009 (signed October 5, 2009) is insufficient to overcome the 103 rejections of claims 1 and 3-14 as set forth in the last Office action because: it fails to sufficiently compare the claimed invention with the

closest prior art. The combination of prior art teaches the whey being subjected to strong anionic and cationic exchange resins. The order of the ion exchange is considered obvious over the prior art is and considered within the abilities of one of ordinary skill in the art to modify.

14. The declaration shows whey treated by an anionic resin followed by a cationic resin, and compares this with the treatment first by cationic resin followed by anionic resin, or treatment with only a cationic resin.

15. Noel teaches the use of a mixed bed ion-exchange resin to remove undesired ions from a whey solution where the resins in the mixed bed are strong anionic and strong cationic resins. The sequential treatment with the strong anionic and the strong cationic resins is considered an obvious modification.

16. The results presented in the declaration are insufficient to overcome the rejection as they are not sufficient to permit a conclusion regarding unexpected results.

Response to Arguments

17. Applicant's arguments filed July 28, 2009, have been fully considered but they are not persuasive.

18. Applicant's arguments directed at the teachings in the 1.132 declaration are addressed in the "Response to Amendments" section *supra*.

19. The rejection of Noel in view of Saska addresses the order of performing the ion exchange steps, as well as the use of strong cation and anion exchange resins. It is

noted that the Remarks do not contain specific arguments against the rejection of Noel in view of Saska.

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikki H. Dees whose telephone number is (571) 270-3435. The examiner can normally be reached on Monday-Friday 7:30-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. H. D./
/Lien T Tran/
Primary Examiner, Art Unit 1794

Nikki H. Dees
Examiner
Art Unit 1794